

Introduction to HTML.

TRAINING MATERIALS - COURSE HANDOUT

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HTML Introduction

HTML HISTORY

The internet is used to connect computers together to share information. From this, the World Wide Web (www) was spawned, and people started using Hyper Text Mark-up Language (HTML) alongside a Universal Resource Locator to find documents on the internet.



HTML DOCUMENTS

HTML was initially created to share research documents over the internet, linking text, data, images and charts all together. HTML is a mark-up language, which is a language designed for presenting text. This language is processed by a client application, which is typically your browser – Internet Explorer, FireFox, Chrome, etc. A simple example is below:

```
<html>
  <body>
    <h1>Hello World!</h1>
  </body>
</html>
```

The idea is that we use the mark-up language to specify how we want our page to be displayed. We provide the mark-up and the client application will interpret it.

Introduction to HTML

HTML EXAMPLE PAGE

Every HTML page has tags, which are keywords that are defined inside of angle brackets. These keywords are known as elements, and HTML supports hundreds of them.

Tags typically come in pairs (not all, but most!) – the first is the start tag, and the second is the end tag. An important thing to note, the end tag needs to have a forward slash (/) before the keyword.

```
<html>
  <head>
    <title>QA</title>
  </head>
  <body>
    Hello World
  </body>
</html>
```

- The document begins and ends with a HTML tag.
- The head tag is used to keep info about the page, not the content itself
- The body tag contains the visible content of the page

HTML – Basic Tags

In addition to the tags shown in the Example page, there are several basic tags that you will be using quite often within your pages.

PARAGRAPHS

If you want to section your text in your body tag, you can use the `<p>` tag for a paragraph.

```
<body>
  <p> Hello World </p>
  <p> Another paragraph! </p>
</body>
```

LINKS

Adding links to other pages, either on your website or to another website, is important so a user can navigate to information they need quickly. We can use the `<a href>` tag to add links to our website.

```
<body>
  <a href="https://www.youtube.com"> YouTube Link </a>
</body>
```

We start the link with the `<a href>` tag, specifying that we're using a hyperlink reference as our link. Within this tag, we need to specify the link to the website inside of double quotes.

The text outside of the opening tag is the text that you can click to go to the webpage. We then close the link with the `` tag.

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IMAGES

Adding images is also helpful within websites, to add another level of design to the page. We can use the `` tag to specify the source of the image, the alternative text (the text that appears when the image can't load), the width and the height.

```
<body>
  
</body>
```

The `` tag is one of the first tags that don't come in a pair – there is no opening/ending tag pair, but a single opening tag with content inside of it.

Also, you need to make sure that the image that you specify in the tag is in the same folder as the HTML file you create.

PUTTING IT ALL TOGETHER...

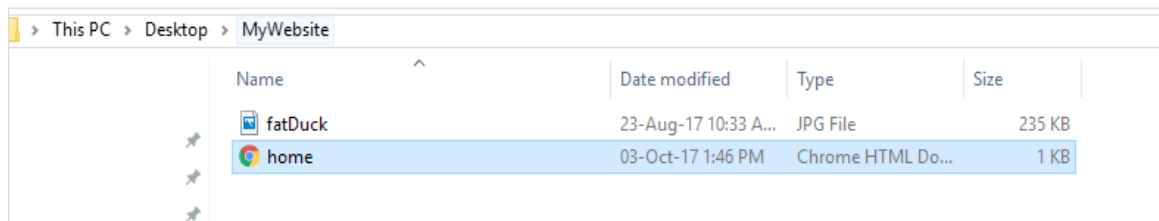
All HTML files need to be saved as a **.HTML** file. Typically, you will want to create a folder within your machine dedicated to the website pages.

Open Notepad, and start constructing your website through HTML! An example could be like this:

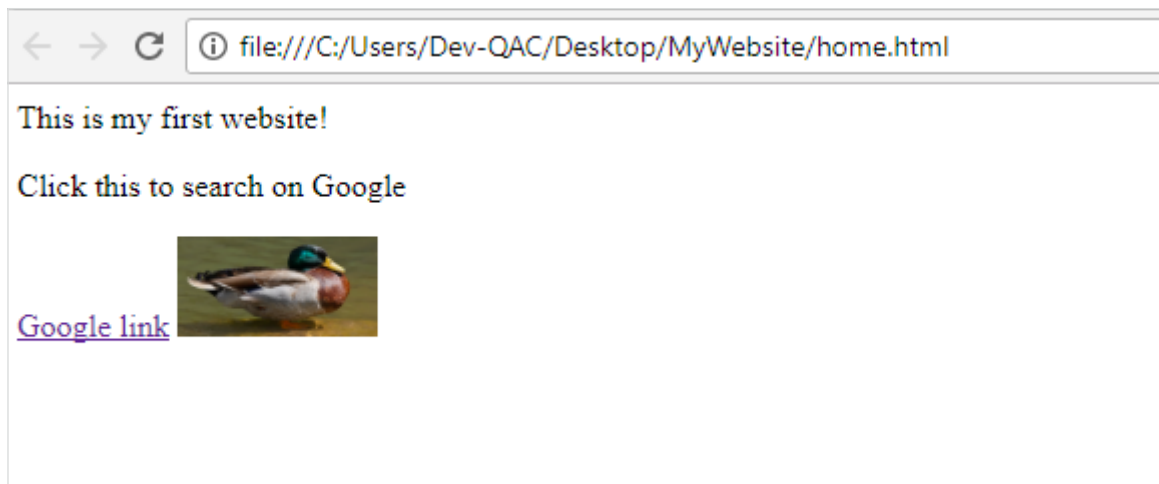
```
<html>
<head>
  <title>My First Website</title>
</head>
<body>
  <p>This is my first website!</p>
  <p>Click this to search on Google</p>
  <a href="https://www.google.com">Google link</a>
  
</body>
</html>
```

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You can see that we have included all of the tags we mentioned previously. We need to save the file as a .html file, and make sure the image in the `` tag is in the folder.



Double clicking the html file we just created should bring you the website we just made!



Elements and Attributes

WHAT IS AN ELEMENT?

HTML elements are the tags that we have been using within our HTML documents. They consist of start and end tags, with the information you want to display inserted between.

You may have noticed that we use elements such as the paragraph `<p>` and image `` tag within the body `` element. This is what is known as a nested element. All HTML documents will have nested elements, as the HTML `<HTML>` element will nest everything in your page.

```
<p> Whatever I want to display in my page goes here! </p>
```

These elements are not case sensitive – meaning that the `` tag is the same as the `` tag. It's recommended that you write your elements in lower case rather than upper case.

WHAT IS AN ATTRIBUTE?

Attributes can add more information about elements that you have in HTML. For example:

```

```

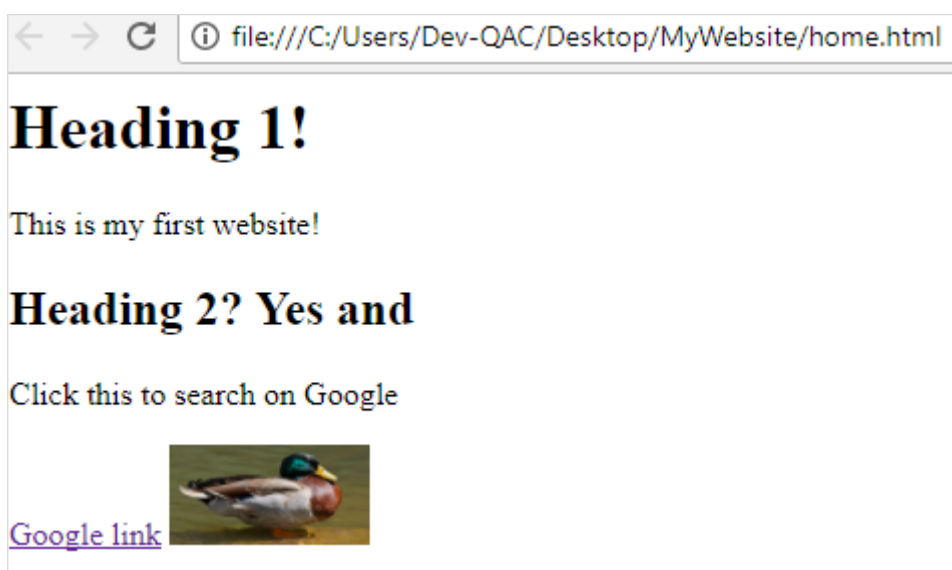
The element in this HTML code is ``, with the attributes of this element being the source (`src`), the alternative text (`alt`), the width (`width`) and the height (`height`). All elements have attributes.

More Elements

HEADINGS

Headings are very important within HTML, as it's a way to define the structure of your page. Your headings can range from h1 (the biggest) to h6 (the smallest). H1 should be used for main headings, h2 for sub-headings, h3 for less important headings, etc.

```
<html>
  <head>
    <title>My First Website</title>
  </head>
  <body>
    <h1>Heading 1!</h1>
    <p>This is my first website!</p>
    <h2>Heading 2? Yes and</h2>
    <p>Click this to search on Google</p>
    <a href="https://www.google.com">Google link</a>
    
  </body>
</html>
```



TABLES

HTML tables are nice to use when trying to organise data in a page in a structured format. Using tables within HTML requires a number of elements; these are:

- Table `<table>`
- Rows `<tr>`
- Table headers `<th>`
- Table data `<td>`

An example usage of tables within HTML can be found below:

```
<html>
  <head>
    <title>My First Website</title>
  </head>
  <body>
    <h1>Heading 1!</h1>
    <p>This is my first website!</p>
    <h2>Heading 2? Yes and</h2>
    <p>Click this to search on Google</p>
    <a href="https://www.google.com">Google link</a>
    
    <table>
      <tr>
        <th>Name</th>
        <th>Age</th>
      </tr>
      <tr>
        <td>"Leroy Jenkins"</td>
        <td>12</td>
      </tr>
      <tr>
        <td>"Pepe"</td>
        <td>17</td>
      </tr>
    </table>
  </body>
</html>
```



LISTS

Within HTML, we can have ordered lists and unordered lists. Ordered lists will present data from 1 onwards, whilst unordered lists will present data in bullet points.

An Unordered List:

- Item
- Item
- Item
- Item

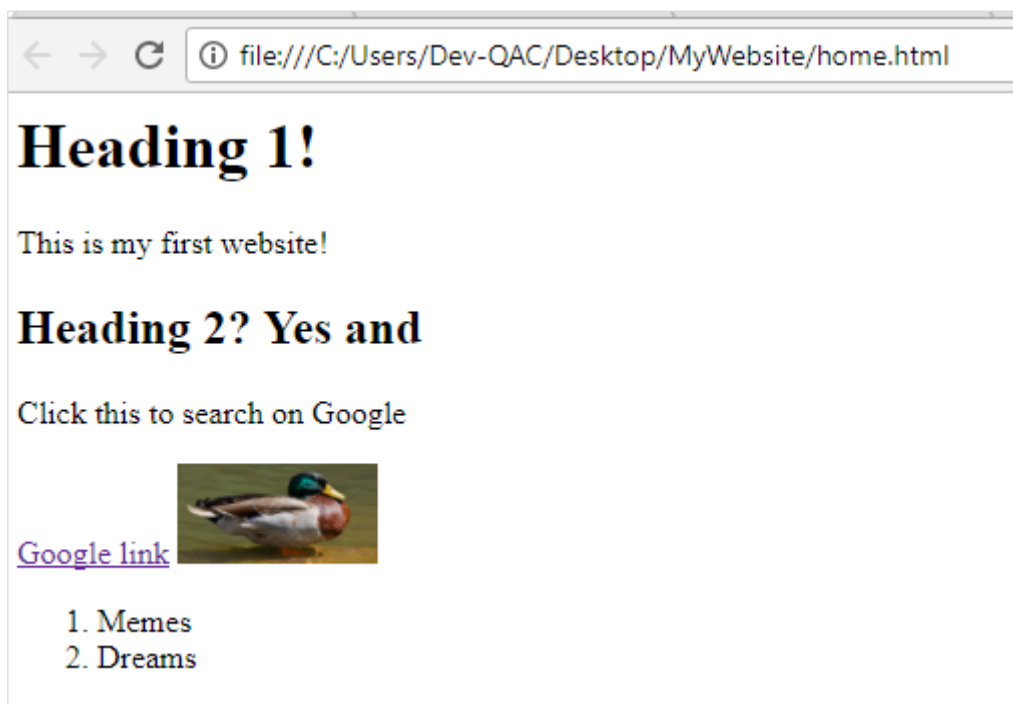
An Ordered List:

1. First item
2. Second item
3. Third item
4. Fourth item

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For ordered lists, we use the `` element, whilst for unordered lists, we use the `` element. Within this element, we need to use the `` element to add data to the list.

```
<html>
  <head>
    <title>My First Website</title>
  </head>
  <body>
    <h1>Heading 1!</h1>
    <p>This is my first website!</p>
    <h2>Heading 2? Yes and</h2>
    <p>Click this to search on Google</p>
    <a href="https://www.google.com">Google link</a>
    
    <ol>
      <li>Memes</li>
      <li>Dreams</li>
    </ol>
  </body>
</html>
```



BREAK LINES

There's times where you will want to make text go onto a new line in a paragraph, or space different parts of text on different lines. You can use the break line element `
` within your HTML to add a new line.

HEADERS AND FOOTERS

Headers and footers are used to anchor key information at the top or the bottom of the page. This could be things like a logo, a title, or contact information.

```
<html>
  <head>
    <title>My First Website</title>
  </head>
  <body>
    <h1>Heading 1!</h1>
    <p>This is my first website!</p>
    <h2>Heading 2? Yes and</h2>
    <p>Click this to search on Google</p>
    <a href="https://www.google.com">Google link</a>
    
  </body>
  <footer>
    <p>Contact info: 01222 222222</p>
  </footer>
</html>
```

DIV TAGS

Div `<div>` tags are used quite a lot in HTML documents. It is used to divide your document into different sections, and is used alongside CSS to style your page.

```
<html>
  <head>
    <title>My First Website</title>
  </head>
  <body>
    <div id="header">
      <h1>Welcome to WebExample.com!</h1>
    </div>
    <div id="content">
      <h2>Homepage</h2>
      <p>There is nothing on this website.</p>
    </div>
    <div id="footer">
      <p>Contact admin@webexample.com</p>
    </div>
  </body>
</html>
```

CSS Introduction

WHAT IS CSS?

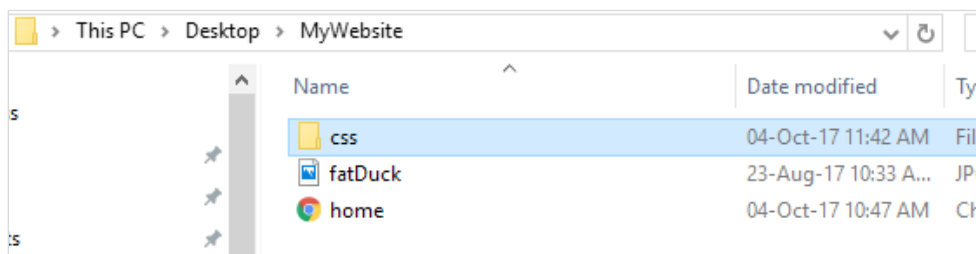
CSS, or Cascading Style Sheets, are files that are used alongside HTML to describe how the page is to be designed. It's important to note – HTML wasn't designed with the intention of design. HTML was all about sharing documents over the internet. CSS was implemented to style the description of HTML.

SYNTAX OF CSS

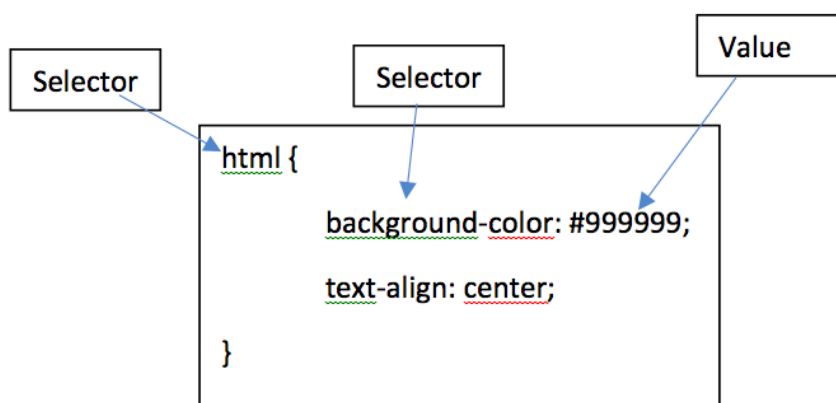
CSS files are different files from HTML, so we need to relate them. We do this with the link element in HTML `<link>`.

```
<link href="css/style.css" rel="stylesheet" type="text/css"/>
```

We should typically have all our CSS files in a dedicated folder, so depending on where you've saved your HTML file, make a folder in there called css.



The syntax within the CSS file is as shown below:



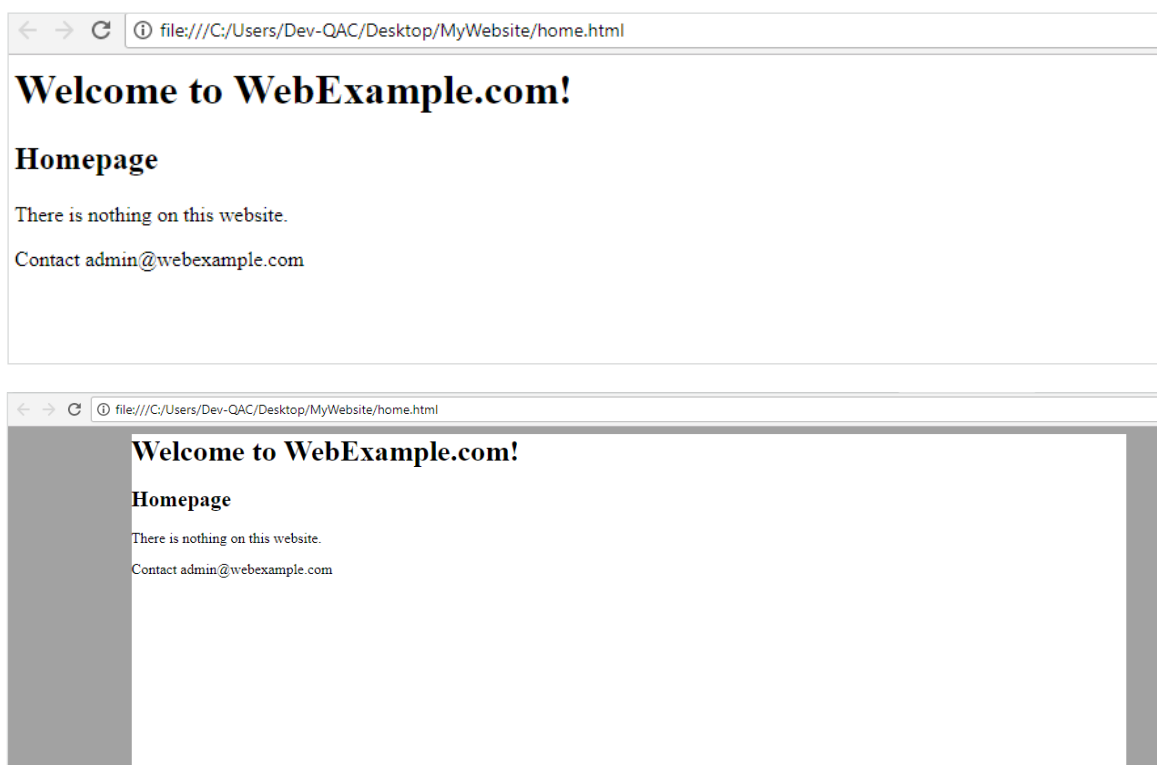
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The selector can be a div tag or an element within your HTML. This is so the CSS file knows what to format when you apply the different properties and their values.

Once we have decided our selector, we open our curly braces and enter our property. These properties, such as the background colour, text colour and text alignment, all have some form of value associated with it. This is ended with a semi-colon `;`, so we can have more than one property style per selector.

CSS BASIC EXAMPLE

Let's compare our website before and after CSS...



Now we need to reference the CSS within our HTML document. We do so with the previous example, using the link element. This needs to be nested between your `<head>` element.

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Here is an example of a basic CSS file:

```
html {  
    background-color: #999999;  
}  
  
body {  
    background-color: #FFFFFF;  
    width: 80%;  
    margin-left: auto;  
    margin-right: auto;  
}
```

In this example, we are referencing the elements within our HTML files to format the document. Everything within the html element will have a background colour of code 999999 (grey).

Everything within the body element will have a background colour of code FFFFFFFF (white), a width of 80% of the page, and 2 margins on the left and right side.

A full list of CSS properties can be found below:

<https://www.w3schools.com/css/>

Additionally, a full list of colour hex codes can be found below:

<http://htmlcolorcodes.com/>